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(54) **Method for vertical fuse testing.**

(57) A method and structure is provided to test for leakage currents in a fuse array (208). A diode (170-1-170-M) is connected to each column in the array in order to isolate the column (280-1-280-M) from the test circuitry during normal operation of the device. During testing, current is fed through a diode (170-1-170-M) to a column, and the corresponding leakage current is measured. In one embodiment, the anodes of each diode are connected in common to a single test point (175), and the total leakage current from the entire fuse array (208) is measured simultaneously. In another embodiment, addressing means are used to selectively address a desired one of the test diodes and thus a corresponding one of the columns such that leakage current through a single column. In another embodiment, regardless whether all of the columns are simultaneously accessed or are addressed individually, rows are individually addressed in order to enable measurement of leakage current of either a single fuse, or the total leakage current of the fuses associated with an entire row, respectively.

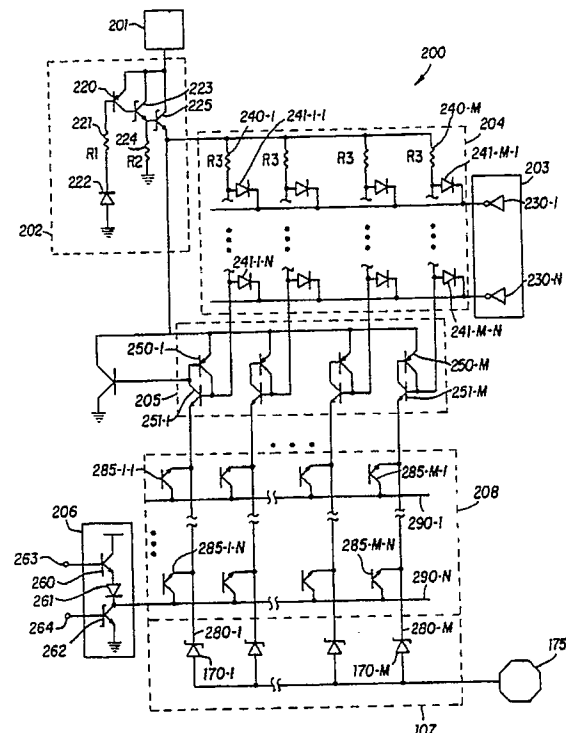


FIG. 4

EP 0 386 573 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			EP 90103677.2				
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)				
A	US - A - 3 848 238 (RIZZI et al.) * Fig. 2; claims * --	1	G 01 R 31/318 G 06 F 11/00 G 11 C 17/16 H 03 K 19/007				
A	US - A - 4 404 635 (FLAKER) * Abstract; fig. 3; column 4, line 31 - column 5, line 20 * --	1					
A	US - A - 4 499 579 (STILL et al.) * Fig. 5; column 6, lines 29- 46; fig. 7; column 6, line 61 - column 8, line 7 * --	1					
D,A	US - A - 4 595 875 (CHAN et al.) * Totality * --	1					
D,A	US - A - 4 625 162 (BOSNYAK) * Claims; fig. 2 * --	1	TECHNICAL FIELDS SEARCHED (Int. Cl.5)				
D,A	US - A - 4 670 708 (BOSNYAK et al.) * Totality * --	1	H 03 K 19/00 G 11 C 17/00 G 06 F 11/00 G 01 R 31/00				
A	US - A - 4 698 589 (BLANKENSHIP et al.) * Totality * --	1					
D,A	US - A - 4 701 695 (CHAN et al.) * Totality * --	1					
A	US - A - 4 730 273 (SLUSS) * Abstract; claims; fig. 3 * ----	1					
The present search report has been drawn up for all claims							
Place of search VIENNA		Date of completion of the search 07-02-1991	Examiner BAUMANN				
<table><tr><td>CATEGORY OF CITED DOCUMENTS</td><td>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- &amp; : member of the same patent family, corresponding document</td></tr><tr><td>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</td><td></td></tr></table>				CATEGORY OF CITED DOCUMENTS	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	
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